

## CLAIMS

1. A content generation apparatus comprising:  
a presentation control information generation unit operable to generate presentation control information that includes a style sheet describing presentation settings in the case where presentation data is presented based on a presentation specification that is previously defined in order to guarantee uniqueness concerning a page layout of the presentation data; and  
a content generation unit operable to associate each of the presentation data with the presentation control information and generate a content including information indicating the association and the presentation data.
2. The content generation apparatus according to Claim 1, wherein the presentation control information includes presentation specification information concerning the presentation specification.
3. The content generation apparatus according to Claim 2, wherein the presentation specification information includes presentation apparatus information specifying one of ( i ) at least one presentation apparatus that is a display apparatus or a printing apparatus and ( ii ) a model of the presentation apparatus.
4. The content generation apparatus according to Claim 3, wherein the presentation apparatus information includes a page margin indicating a presentation range of the presentation apparatus as a presentation specification of the presentation apparatus.
5. A receiving apparatus comprising:  
a content receiving unit operable to receive a content

including ( i ) presentation data and ( ii ) presentation control information, which is associated with the presentation data, which includes a style sheet describing presentation settings in the case where the presentation data is presented based on a presentation  
5 specification that is previously defined in order to guarantee uniqueness concerning a page layout of the presentation data;

a presentation control information extraction unit operable to extract the presentation control information from the received content;

10 a presentation apparatus specification information obtainment unit operable to obtain, from a presentation apparatus connected to the receiving apparatus, presentation apparatus specification information concerning a specification of a presentation output of the presentation apparatus; and

15 an update judgment unit operable to compare the presentation control information with the obtained presentation apparatus specification information and judge whether the style sheet should be updated or not.

20 6. The receiving apparatus according to Claim 5, wherein the presentation control information includes presentation specification information concerning the presentation specification, and

the update judgment unit compares the presentation  
25 specification information included in the presentation control information with the obtained presentation apparatus specification information and judges whether the style sheet should be updated or not.

30 7. The receiving apparatus according to Claim 6, wherein the presentation apparatus specification information includes a page margin indicating a presentation range

of the presentation apparatus as a specification of a presentation output of the presentation apparatus.

8. The receiving apparatus according to Claim 6,

5 wherein the presentation specification information includes presentation apparatus information specifying one of ( i ) at least one presentation apparatus that is a display apparatus or a printing apparatus and ( ii ) a model of the presentation apparatus, and

10 the update judgment unit compares the presentation apparatus information included in the presentation control information with the obtained presentation apparatus specification information and judges whether the style sheet should be updated or not.

15 9. A receiving apparatus comprising:

a content receiving unit operable to receive a content including ( i ) presentation data and ( ii ) presentation control information, which is associated with the presentation data, which includes (a) presentation specification information concerning a presentation specification that is previously defined in order to guarantee uniqueness concerning a page layout of the presentation data and (b) a style sheet describing presentation settings in the case where the presentation data is presented based on the presentation specification;

25 a presentation control information extraction unit operable to extract the presentation control information from the received content; and

30 an output unit operable to output the presentation data based on the presentation specification and the style sheet that are included in the presentation control information.

10. A presentation apparatus comprising:

a content obtainment unit operable to obtain, from a connected receiving apparatus, a content that includes ( i ) presentation data and ( ii ) presentation control information which is associated with the presentation data that includes (a)  
5 presentation specification information concerning a presentation specification that is previously defined in order to guarantee uniqueness concerning a page layout of the presentation data and (b) a style sheet describing presentation settings in the case where the presentation apparatus presents the presentation data of the  
10 content;

a presentation control information extraction unit operable to extract the presentation control information from the obtained content;

an update judgment unit operable to compare the  
15 presentation specification information included in the presentation control information with presentation apparatus specification information concerning a specification of self presentation output and judge whether the style sheet should be updated or not;

a layout rule extraction unit operable to extract a layout rule  
20 indicating a selection range of parameters of the presentation settings from the presentation apparatus specification information in the case of updating the style sheet as a result of the judgment;

a style sheet update unit operable to change the parameters of the style sheet with reference to the extracted layout rule and  
25 the style sheet; and

a presentation unit operable to present the presentation data based on the updated style sheet.

11. The presentation apparatus according to Claim 10,  
30 wherein the presentation specification information includes presentation apparatus information specifying one of ( i ) at least one presentation apparatus that is a display apparatus or a printing

apparatus and ( ii ) a model of the presentation apparatus, and  
the update judgment unit compares presentation apparatus  
information included in the presentation control information with  
the presentation apparatus specification information and judge  
5 whether the style sheet should be updated or not.

12. A content generation apparatus comprising:

a print control information generation unit operable to  
generate print control information including ( i ) print specification  
10 information concerning print specification that is previously  
defined in order to guarantee uniqueness concerning a page layout  
of print data and ( ii ) a print style sheet describing print settings of  
the print data; and

a content generation unit operable to associate each of the  
15 print data with the print control information and generate a print  
content including the print data and information indicating a  
resulting association.

13. The content generation apparatus according to Claim 12,  
20 wherein the print specification information includes printing  
apparatus information specifying a printing apparatus.

14. The content generation apparatus according to Claim 13,  
wherein the content generation unit further generates a  
25 print content including a print execution command for causing the  
printing apparatus to execute printing.

15. The content generation apparatus according to Claim 13,  
further comprising a layout rule decision unit operable to decide a  
30 layout rule indicating a selection range of parameters of print  
settings in the printing apparatus based on the printing apparatus  
information,

wherein the print control information generation unit generates the print style sheet of each of the print data based on the decided layout rule.

- 5 16. The content generation apparatus according to Claim 15,  
wherein the parameters include a paper size, margin sizes,  
font types, character sizes, colors, widths of lines, the number of  
characters in a line, spaces between characters and  
ornamentation.

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17. A content generation apparatus comprising:

a print control information generation unit operable to  
generate print control information including printing apparatus  
information specifying a printing apparatus and a print style sheet  
15 describing print settings of a text of electronic mail; and

a content generation unit operable to generate one of ( i ) an  
electronic mail including the text of the electronic mail and the  
print control information and ( ii ) an electronic mail including the  
text of the electronic mail and link information to the print control  
20 information.

18. The content generation apparatus according to Claim 17,  
wherein the content generation unit incorporates the  
generated print control information into a header of the electronic  
25 mail.

19. A content generation apparatus comprising:  
an apparatus information storage unit operable to store  
specification information concerning print output of one of ( i )  
30 at least one printing apparatus and ( ii ) a model of the printing  
apparatus;

a layout rule decision unit operable to decide a layout rule

indicating a selection range of specific parameters of print settings in one of the printing apparatus and the model based on the specification information;

5 a print control information generation unit operable to generate print control information including the decided layout rule and a print style sheet describing the print settings of print data; and

10 a content generation unit operable to associate the print data with the print control information and generate a print content including the print data and information indicating a resulting association.

20. A receiving apparatus comprising:

15 a content receiving unit operable to receive a print content that includes ( i ) print data and ( ii ) print control information, which is associated with the print data, which includes ( i ) print specification information concerning a print specification that is previously defined in order to guarantee uniqueness concerning a page layout of the print data and ( ii ) a print style sheet describing  
20 print settings of the print data in a printing apparatus;

a print control information extraction unit operable to extract the print control information from the print content;

25 a printing apparatus specification information receiving unit operable to receive, from the printing apparatus, printing apparatus specification information concerning print output of the printing apparatus; and

a comparison unit operable to compare the print specification information included in the print control information with the received printing apparatus specification information.

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21. The receiving apparatus according to Claim 20, wherein the print specification information includes printing

apparatus information specifying one of ( i ) at least one printing  
apparatus and ( ii ) a model of at least one printing apparatus, and  
the comparison unit compares the printing apparatus  
information included in the print control information with the  
5 received printing apparatus specification information.

22. The receiving apparatus according to Claim 21,

wherein the comparison unit compares ( i ) one of a printing  
apparatus and a model of the printing apparatus which is specified  
10 by the received printing apparatus specification information with  
( ii ) one of a printing apparatus and a model of the printing  
apparatus which is specified by the printing apparatus information  
to check whether ( i ) is included as ( ii ), and

the receiving apparatus further includes an output unit  
15 operable to output the print data and the print style sheet to the  
printing apparatus in the case where one of a printing apparatus  
and the model of the printing apparatus that is specified by the  
printing apparatus information is included as a result of the  
comparison.

20

23. The receiving apparatus according to Claim 22, further  
comprising:

a layout rule extraction unit operable to extract a layout rule  
indicating a selection range of parameters of print settings in the  
25 printing apparatus from the received specification information in  
the case where neither a printing apparatus nor the model of the  
printing apparatus that is specified by the printing apparatus  
information is included as a result of the comparison; and

a print style sheet update unit operable to update the  
30 parameters of a print style sheet so as to perform print output  
according to the print style sheet with reference to the extracted  
layout rule and the print style sheet.



24. The receiving apparatus according to Claim 23,  
 wherein the print style sheet update unit updates the other  
 parameters of a print style sheet so that the printing apparatus can  
 5 execute printing output according to the number of characters in a  
 line and the number of lines in a page that are the parameters of  
 the print style sheet.

25. The receiving apparatus according to Claim 23,  
 10 wherein the content receiving unit receives a print content  
 that includes a print execution command for ( i ) executing  
 comparing the printing apparatus information with the  
 specification information, ( ii ) updating a print style sheet and ( iii )  
 printing print data, and  
 15 the print style sheet update unit updates predetermined  
 parameters to predetermined values in the print style sheet so that  
 the printing apparatus can execute printing output according to the  
 number of characters in a line and the number of lines in a page  
 that are the parameters of the print style sheet in response to the  
 20 print execution command.

26. The receiving apparatus according to Claim 25, further  
 comprising:  
 a preview unit operable to have a display apparatus display  
 25 a print display screen based on the print style sheet and receive a  
 print instruction by an operator's operation; and  
 an output unit operable to output the print data and the print  
 style sheet to the printing apparatus in response to the print  
 instruction.

30 27. The receiving apparatus according to Claim 25, further  
 comprising:

a print instruction input unit operable to receive a print instruction by an operator's operation; and

an output unit operable to output the print data and the print style sheet to the printing apparatus in response to the print  
5 instruction.

28. The receiving apparatus according to Claim 22,

wherein the content receiving unit receives the print content including a layout rule indicating a selection range of specific  
10 parameters of print settings decided based on information concerning print output of one of ( i ) the printing apparatuses and ( ii ) a model of the printing apparatus instead of the printing apparatus information,

the specification information receiving unit receives the  
15 specification information including the layout rule indicating the selection range of the parameters of the print settings of the printing apparatus from the printing apparatus,

the comparison unit compares the layout rule included in the print content with the layout rule included in the specification  
20 information, and

the receiving apparatus further comprises a print style sheet update unit operable to update the print style sheet in the case where the layout rule included in the specification information does not satisfy the layout rule included in the print content as a result  
25 of the comparison.

29. The receiving apparatus according to Claim 22, further comprising

a notification unit operable to notify a printing apparatus  
30 connected to the receiving apparatus of that the print style sheet needs to be updated in the case where neither a printing apparatus nor the model of the printing apparatus that is specified by the

printing apparatus information is included as a result of the comparison.

30. A receiving apparatus comprising:

5 an electronic mail receiving unit operable to receive a text of an electronic mail and one of ( i ) electronic mail that includes (a) print control information associated with the text of the electronic mail including printing apparatus information specifying at least one printing apparatuses and (b) a print style sheet describing  
10 print settings of the text of the electronic mail in each of the printing apparatuses and ( ii ) electronic mail that includes (a) link information between the text of the electronic mail and (b) the print control information;

15 a print control information extraction unit operable to extract the print control information from the electronic mail;

a printing apparatus specification receiving unit operable to receive, from a printing apparatus, printing apparatus specification information concerning print output of the printing apparatus, the printing apparatus specification information including information  
20 specifying the printing apparatus;

a comparison unit operable to compare the printing apparatus information included in the print control information with the received printing apparatus specification information; and

25 an output unit operable to output the text of the electronic mail and the print style sheet to the printing apparatus in the case where printing apparatuses specified by the printing apparatus specification information are included in printing apparatuses specified by the printing apparatus information.

30 31. The receiving apparatus according to Claim 30, further comprising:

a layout rule extraction unit operable to extract a layout rule

indicating a selection range of parameters of print settings in the printing apparatus from the received specification information in the case where the printing apparatuses specified by the printing apparatus specification information are not included in printing apparatuses specified by the printing apparatus information as a result of the comparison; and

a print style sheet update unit operable to update the parameters of a print style sheet so as to execute printing output according to the print style sheet with reference to the extracted layout rule and the print style sheet,

wherein the output unit outputs the text of the electronic mail and the updated print style sheet to the printing apparatus.

32. The receiving apparatus according to Claim 31,

wherein the electronic mail receiving unit receives an electronic mail including a print execution command for causing the printing apparatus to execute printing, and

the print style sheet update unit updates predetermined parameters of the print style sheet to predetermined values so that the printing apparatus execute printing output according to the number of characters in a line and the number of lines in a page that are the parameters in the print style sheet in response to the print execution command.

33. The receiving apparatus according to Claim 32, further comprising:

a preview unit operable to have a display apparatus display a print display screen of the text of the electronic mail based on the print style sheet and receive a print instruction by an operator's operation; and

an output unit operable to output the print data and the print style sheet to the printing apparatus in response to the print

instruction.

34. A receiving apparatus comprising:

an electronic mail receiving unit operable to receive a text of  
5 an electronic mail and print control information, which is  
associated with the text of the electronic mail, which includes ( i )  
printing apparatus information specifying at least one printing  
apparatus in a header of the electronic mail and ( ii ) a print style  
sheet describing print settings of the text of the electronic mail in  
10 each of the printing apparatus;

a print control information extraction unit operable to  
extract the print control information from the electronic mail;

a printing apparatus specification information receiving unit  
operable to receive, from a printing apparatus, printing apparatus  
15 specification information concerning a print output of the printing  
apparatus, the printing apparatus specification information  
including information specifying the printing apparatus;

a comparison unit operable to compare the printing  
apparatus information included in the print control information  
20 with the received printing apparatus specification information; and

an output unit operable to output the text of the electronic  
mail and the print style sheet to the printing apparatus in the case  
where printing apparatuses specified by the printing apparatus  
specification information are included as printing apparatus  
25 specified by the printing apparatus information.

35. A printing apparatus comprising:

a content receiving unit operable to receive, from a receiving  
apparatus, a print content that includes print data and print control  
30 information, which is associated with the print data, which includes  
( i ) print specification information concerning a print specification  
that is previously defined in order to guarantee uniqueness

concerning a page layout of print data and ( ii ) a print style sheet describing print settings of print data by the printing apparatus;

a print control information extraction unit operable to extract the print control information from the print content;

5 a printing apparatus specification information storage unit operable to hold printing apparatus specification information concerning a specification of self print output;

a comparison unit operable to compare the print specification information included in the print control information  
10 and the printing apparatus specification information;

a layout rule extraction unit operable to extract a layout rule indicating a selection range of parameters of print settings from information concerning a specification of self print output in the case where the specification of the print output specified by the  
15 printing apparatus specification information is not included in a print specification specified by the print specification information as a result of the comparison:

a print style sheet update unit operable to update the parameters of a print style sheet with reference to the extracted  
20 layout rule and the print style sheet; and

a printing unit operable to print print data based on the updated print style sheet.

36. The printing apparatus according to Claim 35,

25 wherein the print specification information includes printing apparatus information specifying one of ( i ) at least one printing apparatuses and ( ii ) a model of the printing apparatus,

the printing apparatus specification information includes information concerning a specification of print output including  
30 identification information specifying one of a self printing apparatus and a model of the printing apparatus,

the comparison unit compares the printing apparatus

information included in the print control information with the identification information, and

the layout rule extraction unit extracts a layout rule indicating a selection range of parameters of print settings from information concerning the specification of the self print output in the case where ( i ) neither a printing apparatus nor a model of the printing apparatus specified by the printing apparatus specification information is included as ( ii ) one of a printing apparatus and a model of the printing apparatus specified by the printing apparatus information as a result of the comparison.

37. The printing apparatus according to Claim 36,

wherein the content receiving unit receives the print content including a layout rule indicating a selection range of specific parameters of print settings decided based on information concerning print output of one of ( i ) one or more of the printing apparatuses and ( ii ) a model of the printing apparatus instead of the printing apparatus information and extracts the layout rule indicating the selection range of parameters in self print settings from information concerning a specification of a self-print output, the comparison unit compares the layout rule included in the print content with the layout rule in the extracted self print settings, and

the print style sheet update unit updates the print style sheet in the case where the layout rule in the extracted self print settings do not satisfy the layout rules included in the print content as a result of the comparison.

38. A printing apparatus comprising:

a printing apparatus specification information storage unit operable to store printing apparatus specification information concerning print output, including identification information

specifying one of a self printing apparatus and a model of the printing apparatus;

5 a specification information sending unit operable to send the printing apparatus specification information to a connected receiving apparatus;

10 a content receiving unit operable to receive, from the receiving apparatus, a print content that includes print data and a print style sheet describing print settings of the print data, the print settings being associated with the print data and being processed by the receiving apparatus based on the printing apparatus specification information; and

a printing unit operable to print the print data included in the received print content based on the print style sheet.

15 39. A printing apparatus comprising:

20 a printing apparatus specification information storage unit operable to hold printing apparatus specification information concerning print output including identification information specifying one of a self printing apparatus and a model of the printing apparatus;

a specification information sending unit operable to send the printing apparatus specification information to a connected receiving apparatus;

25 a content receiving apparatus operable to receive, from the receiving apparatus, a print content that includes print data and print control information which is associated with the print data, the print control information including ( i ) printing apparatus information specifying one of at least one printing apparatus and a model of the printing apparatus and ( ii ) a print style sheet describing print settings of the print data by the printing apparatus;

30 an update notification receiving unit operable to receive a



notification that the print style sheet needs to be updated from the receiving apparatus;

5 a layout rule extraction unit operable to extract a layout rule indicating a selection range of parameters of print settings from the printing apparatus specification information;

a print style sheet update unit operable to update the parameters of the print style sheet with reference to the extracted layout rule and the print style sheet; and

10 a printing unit operable to print the print data based on the updated print style sheet.

40. A content presentation system comprising a distribution server having a content generation apparatus and a receiving apparatus for receiving presentation content from the distribution server and having a connected presentation apparatus present the  
15 received presentation content,

wherein the content generation apparatus includes:

20 a presentation control information generation unit that generates presentation control information including ( i ) presentation specification information concerning a presentation specification that is previously defined so as to guarantee uniqueness concerning a page layout of presentation data and ( ii )  
a presentation style sheet describing presentation settings of presentation data by one of a presentation apparatus and a model  
25 of the presentation apparatus; and

a content generation unit that associates the print data with the print control information and generates a presentation content including the presentation data and the presentation control information,

30 the receiving apparatus includes:

a content receiving unit that receives the presentation content;

a presentation control information extraction unit that extracts the presentation control information from the received presentation content; and

5 a content output unit that outputs the presentation content to the presentation apparatus based on the presentation specification and the presentation style sheet that are included in the presentation control information,

the presentation apparatus includes:

10 a content receiving apparatus that receives the presentation content from the receiving apparatus; and

a presentation unit that presents the presentation data based on the presentation style sheet included in the received presentation content.

15 41. A content printing system comprising a distribution server having a content generation apparatus and a receiving apparatus that receives a print content from the distribution server and has a connected printing apparatus print the received print content,

wherein the content generation apparatus includes:

20 a print control information generation unit that generates print control information including ( i ) print specification information concerning print specification that is previously defined in order to guarantee uniqueness concerning a page layout of print data and ( ii ) a print style sheet describing print settings of  
25 the print data by one of a printing apparatus and a model of the printing apparatus; and

a content generation unit that associates print data with the print control information and generates a print content including the print data and the print control information,

30 the receiving apparatus includes:

a content receiving unit that receives the print content;

a print control information extraction unit that extracts the

print control information from the received print content;

a printing apparatus specification information receiving unit that receives printing apparatus specification information concerning a specification of print output of the printing apparatus  
5 from a printing apparatus connected to the receiving apparatus;

an update judgment unit compares a print specification specified by the print specification information with a specification of print output specified by the received printing apparatus specification information and judges whether the print style sheet  
10 should be updated or not;

a layout rule extraction unit that extracts a layout rule indicating a selection range of parameters of print settings in the printing apparatus from the received printing apparatus specification information in the case where the update judgment  
15 unit judges that the print style sheet should be updated as a result of the judgment;

a print style sheet update unit that updates the other parameters of the print style sheet so as to maintain the number of characters in a line and the number of lines in a page in the print  
20 style sheet with reference to the extracted layout rule and the print style sheet; and

a content output unit that outputs a print content including the print data and the updated print style sheet to the printing  
apparatus,

25 the printing apparatus includes:

a printing apparatus specification information storage unit that stores the printing apparatus specification information;

a specification information sending unit that sends the printing apparatus specification information to the receiving  
30 apparatus;

a content receiving unit that receives the print content from the receiving apparatus; and

a printing unit that prints the print data based on the print style sheet included in the received print content.

42. A content printing system comprising a distribution server  
5 having a content generation apparatus and a receiving apparatus that receives a print content from the distribution server and has a connected printing apparatus print the received print content,

wherein the content generation apparatus includes:

10 a print control information generation unit that generates print control information that includes print specification information concerning a print specification that is previously defined in order to guarantee uniqueness concerning a page layout of print data and a print style sheet describing print settings of the print data by the printing apparatus; and

15 a content generation unit that associates print data with the print control information and generates a print content including the print data and the print control information,

the receiving apparatus includes:

a content receiving unit that receives the print content;

20 a print control information extraction unit that extracts the print control information from the received print content;

a printing apparatus specification information receiving unit that receives printing apparatus specification information concerning a specification of print output of the printing apparatus  
25 from a printing apparatus connected to the receiving apparatus;

an update judgment unit that compares print specification information included in the print control information with the received printing apparatus specification information and judges whether the print style sheet should be updated or not; and

30 a notification sending unit that sends the print content and a notification that the print style sheet needs to be updated to the printing apparatus in the case where the update judgment unit

judges that the print style sheet should be updated, and  
the printing apparatus includes:

a printing apparatus specification information storage unit  
that stores the printing apparatus specification information;

5 a specification information sending unit that sends the  
specification apparatus specification information to the receiving  
apparatus;

a content receiving unit that receives, from the receiving  
apparatus, the print content and the notification that the print style  
10 sheet needs to be updated,

a layout rule extraction unit that extracts a layout rule  
indicating a selection range of parameters of print settings from  
the printing apparatus specification information;

a print style sheet update unit that updates the parameters  
15 of the print style sheet with reference to the extracted layout rule  
and the print style sheet; and

a printing unit that prints the print data based on the  
updated print style sheet.

20 43. A content printing system comprising a distribution server  
having a content generation apparatus and a receiving apparatus  
that receives a print content from the distribution server and has a  
connected printing apparatus print the received print content,

wherein the content generation apparatus includes:

25 a print control information generation unit that generates  
print control information that includes ( i ) print specification  
information concerning a print specification that is previously  
defined in order to guarantee uniqueness concerning a page layout  
of print data and ( ii ) a print style sheet describing print settings of  
30 the print data by the printing apparatus; and

a content generation unit that associates print data with the  
print control information and generates a print content including

the print data and the print control information,

the receiving apparatus includes

a content receiving unit that receives the print content from the distribution server and output the received print content to a  
5 connected printing apparatus,

the printing apparatus includes:

a printing apparatus specification information storage unit that holds printing apparatus specification information concerning self print output;

10 a content input unit that inputs the print content from the receiving apparatus;

a print control information extraction unit that extracts the print control information from the inputted print content;

an update judgment unit that compares the print  
15 specification information included in the extracted print control information with the printing apparatus specification information and judges whether the print style sheet should be updated or not;

a layout rule extraction unit that extracts a layout rule indicating a selection range of parameters of print settings from  
20 the printing apparatus specification information in the case where the update judgment unit judges that the print style sheet should be updated as a result of the judgment;

a print style sheet update unit that updates parameters of a print style sheet with reference to the extracted layout rule and the  
25 print style sheet; and

a printing unit that prints print data based on the updated print style sheet.

44. A content presentation method for use in a system including  
30 a distribution server having a content generation apparatus and a receiving apparatus that receives a presentation content from the distribution server and has a presentation apparatus present the

received presentation content, the method comprising: a step A executed in the content generation apparatus; a step B executed in the receiving apparatus; and a step C executed in the presentation apparatus,

5            wherein the step A includes:

          a presentation control information generation step of generating presentation control information that includes ( i ) presentation specification information concerning a presentation specification that is previously defined in order to guarantee  
10 uniqueness concerning a page layout of presentation data and ( ii ) a presentation style sheet describing presentation settings of the presentation data by one of a presentation apparatus and a model of the presentation apparatus; and

          a content generation step of associating the print data with  
15 the print control information and generating a presentation content including the presentation data and the presentation control information, and

          the step B includes:

          a content receiving step of receiving the presentation  
20 content;

          a presentation control information extraction step of extracting the presentation control information from the received presentation content; and

          a content output step of outputting the presentation content  
25 to the presentation apparatus based on a presentation specification included in the presentation control information and a presentation style sheet,

          the step C includes:

          a content receiving step of receiving the presentation  
30 content from the receiving apparatus; and

          a presentation step of presenting the presentation data based on the presentation style sheet included in the received

presentation content.

45. A content presentation method for presenting presentation data of the content used in a content presentation system including
- 5 a distribution server having a content generation apparatus and a receiving side apparatus that receives a content from the distribution server and presents the received content in a form of displaying and printing, the method comprising: a step A executed in the content generation apparatus; and a step B executed in the
- 10 receiving side apparatus,
- wherein the step A includes:
- a presentation control information generation step of generating presentation control information that includes presentation specification information concerning a presentation
- 15 specification that is previously defined in order to guarantee uniqueness concerning a page layout of presentation data and a style sheet describing presentation settings in the case where the receiving side apparatus presents the presentation data; and
- a content generation step of associating the presentation
- 20 data with the presentation control information and generating a content including information indicating a resulting association and the presentation data, and
- the step B includes:
- a content receiving step of receiving the content from the
- 25 server;
- a presentation control information extraction step of extracting the presentation control information from the received content;
- an update judgment step of comparing presentation
- 30 specification information included in the extracted presentation control information with presentation apparatus specification information concerning a specification of a presentation output of



the receiving side apparatus that is previously stored and judges whether the style sheet should be updated or not;

a layout rule extraction step of extracting a layout rule indicating a selection range of parameters of presentation settings  
5 from the presentation apparatus specification information in the case where it is judged that the print style sheet should be updated as a result of the judgment;

a style sheet update step of changing parameters in a style sheet with reference to the extracted layout rule and the style  
10 sheet; and

a presentation step of presenting presentation data based on the updated style sheet.

46. A program for a content generation apparatus used in a  
15 content presentation system including a distribution server having a content generation apparatus and a receiving apparatus that receives a presentation content from the distribution server and has a connected presentation apparatus present the received presentation content, the program being for causing a computer to  
20 function as:

a presentation control information generation unit that generates presentation control information that includes ( i ) presentation specification information concerning a presentation specification that is previously defined in order to guarantee  
25 uniqueness concerning a page layout of presentation data and ( ii ) a presentation style sheet describing presentation settings of presentation data by one of a presentation apparatus and a model of the presentation apparatus; and

a content generation unit that associates print data with the  
30 print control information and generates a presentation content including the presentation data and the presentation control information.

47. A program for a receiving apparatus used in a content presentation system including a distribution server having a content generation apparatus and a receiving apparatus that receives a presentation content from the distribution server and has a connected presentation apparatus present the received presentation content, the program being for causing a computer to function as:

a content receiving unit that receives the presentation content;

a presentation control information extraction unit that extracts presentation control information that includes presentation specification information concerning a presentation specification that is previously defined in order to guarantee uniqueness concerning a page layout of presentation data from the received presentation content and a presentation style sheet describing presentation settings of presentation data by one of a presentation apparatus and a model of the presentation apparatus; and

a content output unit that outputs the presentation content to the presentation apparatus based on the presentation specification and the presentation style sheet that are included in the presentation control information.

48. A program for a printing apparatus used in a content printing system including a distribution server having a content generation apparatus and a receiving apparatus that receives a presentation content from the distribution server and has a connected printing apparatus print the received print content, the program being for causing a computer to function as:

a printing apparatus specification information storage unit that holds printing apparatus specification information concerning

a specification of a print output of the printing apparatus;

a specification information sending unit that sends the printing apparatus specification information to the receiving apparatus;

5 a content receiving unit that receives, from the receiving apparatus, a print content that includes print data and a print style sheet describing print settings of print data; and

a printing unit that prints the print data based on the print style sheet included in the received print content.

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